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A STUDY OF MORPHOLOGY, PROVENANCE, AND MOVEMENT OF DESERT SAND SEAS IN  
AFRICA, ASIA, and AUSTRALIA

Edwin D. McKee  
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Denver, Colorado 80225

1 May 1973

Type I Progress Report for Period 1 March - 30 April 1973

E73-10542) A STUDY OF MORPHOLOGY,  
PROVENANCE, AND MOVEMENT OF DESERT SAND  
SEAS IN AFRICA, ASIA, AND AUSTRALIA

N73-22305

Progress Report, 1 Mar. - 31 (Geological  
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Type I Progress Report  
ERTS-A

a. Title: A Study of Morphology, Provenance, and Movement of  
Desert Sand Seas in Africa, Asia, and Australia

ERTS-A Proposal No.: SR 131

b. GSFC ID No. of P.I.: IN 402

c. Problems relating to progress:;

The new mode of operation referred to as "dodging" in the preparation of black-and-white prints produces material that is not useful in the present study of dunes. It seems to degrade the images and so the sand features being investigated are less clear than in the former products.

d. Discussion and plans:

Because of the poor quality of the "dodged" black-and-white prints, this project plans to use color prints entirely. Color prints are excellent because of the ease with which sand is recognized and distinguished from other similar features.

e. Results and application:

ERTS prints received to date are being put to use as follows:

1. One color prints of each locality within our areas has been chosen for incorporation into area color photomosaics. Assembly of photomosaics has been started by L. F. Harris for all foreign sites, but because of erratic coverage, only the Thar (area 8) is essentially complete. Table 1 shows present status of photomosaics.

Table 1. Status of ERTS photomosaics

Area	Locality	Black-and White Mosaic	Color		Sections Filed in Map Box
			Single	Large Piece Mounted	
1---	Algeria Sahara	X			OK
2---	Grand Erg Occidental				OK
3---	Libya				OK
4,5---	SW Africa Kalahari-Namib		(Color coverage not received)		
6---	China Takla-Makan				OK
7---	China Gobi Desert		(Color coverage not received)		
8---	Pakistan-India Thar Desert			OK	
9,10---	U.S.S.R.			OK	
11---	Australia Great Sandy Desert	X		OK	
12---	Australia Great Victoria Desert		(Insufficient prints)		
13---	Australia Simpson Desert	X			OK
14---	Saudi Arabia An Nafud				OK
15---	Saudi Arabia Empty Quarter				OK

Because the mosaics necessarily incorporate images from many separate passes representing various seasons, land surface and atmospheric conditions, and because they include differences in photographic developing, the color tones are not uniform. The completed mosaics, however, will be excellent bases for thematic maps and for plotting wind data on overlays, especially when used in conjunction with the Air Force Aeronautical Charts at the same scale (1:1,000,000).

2. Duplicate color prints, along with significant black-and-white prints, are being categorized, according to pattern, in files now being developed by Carol Breed. A tentative classification of sand sea morphologic types is thus emerging (table 2).

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Table 2. Elements of tentative classification as entered in files

<u>Sand sea type</u>	<u>Geographic area</u>
Linear dunes (seifs)	Saudi Arabia
Reticulate (fishscale)	Saudi Arabia
Sigmoidal (sinuous)	Gobi
Basketweave (herringbone)	Takla Makan
Cluster (tassel)	Thar
Star Dunes (strings of beads)	Algeria
Feathered seifs	Mauritania
Seifs with wide interdunes	Mauritania
Fixed and degenerate dune areas	South Africa
Sand sheets and streaks	(ubiquitous)
Isolated valley dunes	N. Saudi Arabia

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- a. ERTS images are superior to all previous coverage for this purpose because all ERTS images, though from widely differing areas, are at exactly the same scale and can be compared directly.
- b. The images in these files, unlike their counterparts in the mosaics, can easily be separated chronologically and so seasonal changes, if any, in a particular locality can easily be observed.
- c. "Ground truth," in the form of lower-altitude aerial photos, wherever available, is being placed in the files for corroboration.
- f. Reports: None
- g. Changes in operation: None
- h. Changes in standing order forms: None
- i. ERTS Image Descriptor forms: Attached
- j. Data Request forms: Attached

ERTS IMAGE DESCRIPTOR FORM  
(See Instructions on Back)

4/30/73

NAME OF INVESTIGATOR

E. D. McKee

GSFC

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U.S. Geol. Survey

PRODUCT ID (INCLUDE BLDG AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*		DESCRIPTION
	Dunes		
E1135 - 06554	✓		
E1135 - 06551	✓		
E1152 - 06501	✓		
E1152 - 06485	✓		
E1152 - 06494	✓		
E1166 - 06254	✓		
E1166 - 06252	✓		
E1166 - 06245	✓		
E1182 - 06144	✓		
E1183 - 06203	✓		
E1184 - 06261	✓		
E1184 - 06255	✓		
E1184 - 06252	✓		
E1184 - 06250	✓		
E1183 - 06200	✓		
E1183 - 06194	✓		
E1183 - 06191	✓		
E1200 - 06150	✓		
E1182 - 06141	✓		
E1203 - 06315	✓		
E1200 - 06144	✓		
E1200 - 06141	✓		

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERM IN THE  
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PRODUCT ID (INCLUDE SATELLITE AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1220-06264	✓			Plain
E1220-06962	✓			
E1074-06144				Sea
E1218-06151	✓			
E1218-06145	✓			
E1218-06142	✓			Playas
E1218-06140	✓			
E1186-06381	✓			dendritic drainage
E1186-06365	✓			
E1187-06415	✓			
E1189-06552	✓			
E1189-06550	✓			
E1187-06430	✓			
E1187-06433	✓			
E1182-06141	✓			
E1182-06135	✓			Playa
E1220-06255	✓			
E1220-06271				Plateau, dendritic drainage

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PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*		DESCRIPTORS
	DUNES		
E1208-00202	✓		
E1208-00205	✓		
E1208-00211	✓		
E1191-00255	✓		CUESTAS
E1168-06364	✓		
E1128-06125	✓		
E1128-06132	✓		coast
E1130-06254	✓		
E1120-06260	✓		
E1130-06262	✓		
E1128-06150	✓		coast
E1128-06144	✓		
E1117-06551	✓		
E1126-06592	✓		
E1136-06585	✓		
E1145-06085	✓		
E1151-06424	✓		
E1151-06442	✓		
E1151-06440	✓		
E1151-06431	✓		
E1195-06533	✓		
E1185-06645	✓		

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GSFC 111-402

ORGANIZATION U. S. G. S.

PRODUCT ID (INCLUDE ID AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*		DESCRIPTION
	Dunes		
E1099-06531	✓		
E1049-07145	✓		oasis
E1083-07040	✓		
E1083-07033	✓		
E1068-07803	✓		
E1044-06463	✓?		
E1132-06373	✓		
E1132-06371	✓		
E1166-06361	✓		
E1170-06204	✓		
E1145-06202	✓		
E1145-06195	✓		
E1145-06193	✓		
E1145-06190	✓		coast
E1152-06492	✓		
E1150-06323	✓		
E1170-06484	✓		
E1170-06493	✓		
E1170-06495	✓		
E1163-06313	✓		
E1168-06380	✓		
E1168-06383	✓		

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PRODUCT ID (NAME OF LAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTOR
	Dunes			
E1191-05213	✓			
E1191-05211	✓			
E1189-05094	✓			crater
E1189-05091	✓			
E1189-05085	✓			lakes
E1190-05161				river delta
E1190-05155	✓			plaza
E1192-05272	✓			
E1192-05151	✓			
E1192-05153	✓			plaza
E1172-05142	✓			flood plain
E1172-05144	✓			
E1207-05095	✓			
E1207-05093	✓			
E1207-05090	✓			lakes
E1133-06423	✓			
E1133-06425	✓			
E1173-06422	✓			
E1153-06553	✓			
E1132-06282	✓			
E1132-06380	✓			

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PRODUCT ID (INCLUDE LINE AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1138-05270	✓			Mountains, River, Vegetation
E1174-05261	✓			
E1174-05263	✓(?)			Cuestas, River
E1173-05205	✓			
E1173-05211	✓			playas, Vegetation
E1173-05200	✓			
E1173-05202	✓			
E1173-05214	✓			playas
E1173-05212	✓			Lakes, Vegetation, floodplain
E1139-05205	✓			
E1139-05203	✓			Cuestas, floodplain
E1171-05092	✓			
E1171-05090	✓			Vegetation
E1171-05083	✓			Lakes
E1191-05204	✓			
E1190-05152	✓			
E1190-05150	✓			
E1190-05143	✓			Lakes
E1192-05263	✓			
E1192-05265	✓			River, floodplain
E1193-05324	✓			fold mountains
E1191-05220	✓			delta

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PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1192-03325	✓			pediplains
E1191-03334	✓			snow
E1206-03170	✓			
E1206-03171	✓			river
E1206-03164	✓			
E1206-03340	✓			
E1189-03224	✓			
E1133-03112				ridges
E1133-03105	✓			
E1187-03104	✓			
E1187-03111	✓			
E1034-05032	✓			
E1135-05095	✓			
E1135-05092	✓			
E1135-05090	✓			
E1155-05213	✓			
E1152-05094	✓			
E1154-05150	✓			
E1136-05160	✓			
E1136-05153	✓			
E1136-05151	✓			
E1136-05144	✓			River, vegetation

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PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1106 - 09160	✓			
E1106 - 09162	✓			
E1106 - 09165	✓			
E1106 - 09171	✓			Lava
E1106 - 09153	✓			Lava
E1191 - 08492	✓			Lava
E1194 - 09055	✓			
E1198 - 09095	✓			
E1196 - 09181	✓			
E1196 - 09165	✓			valley
E1196 - 09163	✓			valley
E1196 - 09154	✓			
E1196 - 09183	✓			craters
E1194 - 09043	✓			valley
E1192 - 09014	✓			
E1193 - 09012	✓			
E1193 - 09005	✓			
E1193 - 08594	✓			
E1193 - 08591	✓			valley
E1193 - 09021	✓			
E1193 - 08553	✓			
E1192 - 08550	✓			valley
E1192 - 03393	✓			

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PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY OCCURRING DESCRIPTORS*	DESCRIPTORS*		DESCRIPTION
		DUNES	ARROYOS	
E1114-10011	11			
E1114-10002	11			arroyos; mountain fold
E1114-10004	11			arroyo
E1114-10020	11			plateaus
E1114-10013	11			plateaus
E1112-09500	11			plateau?
E1112-09491	11			
E1113-09552	11			
E1113-09550	11			
E1113-09543	11			dendritic drainage
E1113-09555	11			plateau
E1110-08104	11			vegetation
E1110-08102	11			
E1198-07591	11			
E1198-07594	11			
E1202-08215	11			
E1198-08003	11			
E1198-08000	11			
E1197-07544	11			ridge; sediment
E1147-08160	11			vegetation
E1143-07531	11			vegetation
E1143-07540	11			vegetation

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PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	DUNES			
E1143-07542	11			
E1142-07484	11			
E1180-07585	11			
E1180-07592	11			
E1180-07594	11			playas
E1180-08001	11			RIVER
E1127-06021	11			
E1127-06015	11			pediment
E1127-06024	11			
E1127-06033	11			
E1127-06035	11			Dam; RIVER
E1127-06042	11			floodplain
E1127-06030				
E1142-05461				mountains
E1142-05455	11			SNOW MOUNTAINS
E1142-05452	11			SNOW CUESTA
E1197-05504	11			Lakes
E1197-05510	11			
E1197-05513				
E1197-05515				
E1197-05522				
E1196-05454	11	P		
E1196-05560				RIVER-floodplain

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PRODUCT ID (INCLUDE BLDG AND PRODUCT)	FREQUENTLY USED DESCRIPTORS			DESCRIPTION
	Dunes			
E1126-05563	11			
E1126-05565	11			pediment
E1166-06195	11			
E1166-06202				
E1184-06193	11			
E1184-06200	11			
E1184-06202	11			
E1130-01275	11			coast
E1148-01275	11			coast
E1179-01000	11			
E1179-00593	11			
E1179-00591	11			
E1182-01164	11			
E1182-01161	11			
E1034-00530	11			playas
E1180-01045	11			
E1180-01054	11			
E1180-01051	11			Lake
E1134-00094				Lakes
E1134-00092	11			
E1134-00085	11			Lakes

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PRODUCT ID AS USE (AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*		DESCRIPTION
	DUNES		
E1134-00083			lakes, cuestas, mountain fold
E1133-00045			dendritic drainage
E1133-00031	"/		LAKES
E1133-00042	"/		Lakes
E1133-00042	"/		RIVER
E1133-00033	"/		playa
E1131-23590	"/		RIVER
E1131-23584	"/		
E1131-23581	"/		
E1131-23575	"/		
E1154-00210	"/		
E1154-00204	"/		
E1154-00201	"/		
E1153-00152	"/		
E1153-00145	"/		
E1153-00143	"/		
E1153-00140	"/		
E1153-00134			
E1152-00091	"/		Lakes, playas
E1152-00085	"/		Lakes, playas
E1151-00042	"/		Lakes
E1151-00044	"/		Lakes, island

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PRODUCT ID (INCLUDE LAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTION
E1209-00270	✓			Lakes, dendritic drainage
E1209-00272	✓			Lakes, dendritic drainage
E1176-00425	✓			lakes, islands
E1211-00380	✓			
E1211-00374	✓			Cuestas, playas
E1135-00153	"			
E1135-00150	"			
E1134-00101	"			Lakes
E1191-00262	"			
E1209-00254				
E1209-00261	"			
E1206-00095	"			
E1206-00092	"			
E1206-00090				
E1205-00034	"			
E1148-23525	"			playa
E1148-23523				
E1148-23532				
E1155-00253	"			
E1155-00260	"			
E1155-00262	"			
E1208-00200	"			

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMNS HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINE. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO

NDPF USER SERVICES

CODE 563

BLDG 23 ROOM E413

NASA GSFC

GREENBELT, MD. 20771

301-982-5406

4/30/73

PRINCIPAL INVESTIGATOR E. O. Mack

GSFC IN-402

ORGANIZATION U. S. S.

PRODUCT ID (INCLUDE ITEM AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*		DESCRIPTOR
	Desires		
E1125-01012	✓		
E1175-00373	✓		
E1175-00380	✓		
E1175-00382	✓		
E1175-00371	✓		
E1158-00433	✓		
E1123-00492	✓		
E1123-00504	✓		
E1123-00495	✓		Playas
E1123-00501	✓		Playas
E1137-00272	✓		
E1177-00490	✓		
E1177-00492	✓		
E1177-00495	✓		
E1157-00390	✓		
E1157-00381	✓		
E1157-00384	✓		Plain
E1208-00214	✓		
E1191-00264	✓		
E1191-00271	✓		
E1209-00263	✓		

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMNS, LEAVING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINE. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS TO THE RIGHT).

MAIL TO      NDPF USER SERVICES  
CODE 563  
BLDG 23 RCL 1 E413  
NASA GSFC  
GREENBELT, MD. 20771  
301-982-5406

## ERTC IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE 4/30/73PRINCIPAL INVESTIGATOR E. O. McKeeGSFC IN-402ORGANIZATION U. S. G. S.

PRODUCT ID (INCLUDE SATELLITE AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1149-04430	✓			
E1149-04424	✓			
E1132-04485	✓			River
E1127-04203				Mountains
E1127-04201	✓			Mountains
E1163-04190				Mountains
E1163-04193	✓			
E1144-04140	✓			
E1145-04194	✓			
E1131-04440				Mountains
E1215-04085	✓			Playas, Lakes, cuestas pediplain
E1215-04083	✓			
E1205-04544	✓			
E1205-04550				
E1205-04541	✓			Cuestas, Rivers, floodplain
E1206-05000				Cuestas, Mountains
E1206-05002	✓			River, floodplain
E1206-05005	✓			pediplain, Mountains.
E1124-00551	✓			
E1124-00553	✓			
E1124-00560	✓			

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERM IN THE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN)

MAIL TO      NDPF USER SERVICES  
 CODE 363  
 BLDG 23 ROOM E413  
 NASA GSFC  
 GREENBELT, MD. 20771  
 301-932-5406

## ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE 4/30/73

NDPF USE OF:

D

N

ID

PRINCIPAL INVESTIGATOR E. O. Mc KeeGSFC IN - 402ORGANIZATION U. S. G. S

PRODUCT ID (CODE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1134-10151	✓			
E1095-08274	✓			Coast
E1095-08271	✓			Bay
E1058-08212	✓			
E1115-04543	✓			
E1115-04550	✓			Mountains, Alluvial Fan
E1130-04370	✓			
E1131-04483	✓			River, Flood Plain, Mountains
E1131-04431	✓			River
E1131-04424	✓			
E1126-04140	✓			
E1126-04143	✓			Mountains, Pediments
E1130-04375	✓			
E1130-04381	✓			Mountains
E1129-04314	✓			
E1129-04311	✓			
E1129-04305	✓			Lake
E1136-05115	✓			Mountains
E1204-04485	✓			
E1204-04492	✓			
E1203-04424	✓			
E1164-04245	✓			Lake
E1162-04134	✓			

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO NPDF USER SERVICES  
CODE 563  
BLDG 23 ROOM E413  
NASA GSFC  
21 GREENBELT, MD. 20771  
301-982-5406

## ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE

4/30/73

PRINCIPAL INVESTIGATOR

E. D. McKee

GSFC

IN-402

ORGANIZATION

U.S.G.S.

S. - 1 - 101.V  
D \_\_\_\_\_  
N \_\_\_\_\_  
ID \_\_\_\_\_

PRODUCT ID (INCLUDE DATE AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Dunes			
E1119-10324	✓			
E1119-10322	✓			
E1113-09593	✓			Valleys
E1111-09453	✓			
E1111-09462				Volcano
E1133-10104	✓			Lake
E1159-10550	✓			
E1142-11021				Sea
E1140-10500	✓			Valley
E1140-10502	✓			
E1140-10505	✓			
E1140-10491	✓			Volcanos
E1140-10493	✓			
E1138-10374	✓			
E1138-10392	✓			
E1138-10394				
E1135-10221	✓			Plateau
E1135-10223	✓			Plateau
E1175-10441	✓			Valley
E1186-10003	✓			
E1186-10005	✓			
E1134-10160	✓			
E1134-10153	✓			

\*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

MAIL TO      NPDF USER SERVICES  
CODE 563  
BLDG 23 ROOM E413  
NASA GSFC  
22      GREENBELT, MD. 20771  
301-982-5406

ERTS Images Ordered Retrospectively March - April, 1973

E1132-06371	E1155-07040	E1168-06373	E1153-00140
E1138-07093	E1157-07152	E1168-06364	E1153-00143
E1137-07045	E1158-07211	E1128-06135	E1153-00145
E1137-07043	E1174-07092	E1128-06132	E1153-00152
E1137-07040	E1173-07041	E1130-06245	E1136-05160
E1123-00504	E1139-07151	E1130-06251	E1136-05153
E1123-00492	E1139-07154	E1130-06254	E1136-05151
E1158-00433	E1121-07151	E1130-06260	E1136-05144
E1175-00371	E1121-07153	E1130-06263	E1138-05270
E1173-05200	E1134-10151	E1128-06150	E1174-05261
E1173-05202	E1134-10153	E1128-06144	E1174-05263
E1166-06202	E1134-10160	E1117-06551	E1174-05270
E1166-06195	E1136-06592	E1117-06553	E1131-04440
E1130-01275	E1136-06585	E1152-06492	E1145-04194
E1148-01275	E1145-06085	E1150-06373	E1144-04140
E1123-00501	E1151-06424	E1153-06550	E1146-08102
E1123-00495	E1151-06442	E1148-06251	E1146-08104
E1137-07034	E1151-06440	E1170-06484	E1146-08111
E1192-03393	E1151-06431	E1170-06490	E1145-08055
E1192-03390	E1135-06545	E1170-06493	E1145-08052
E1191-03332	E1135-06554	E1170-06495	E1145-08050
E1191-03325	E1135-06551	E1167-06313	E1145-08043
E1191-03334	E1152-06501	E1167-06310	E1169-06441
E1173-05205	E1152-06485	E1135-00150	E1169-06434
E1173-05211	E1152-06494	E1135-00153	E1171-06551
E1155-07042	E1168-06380	E1151-00044	E1171-06544
E1152-00091	E1152-00085	E1151-00042	E1143-07542

ERTS Images Ordered Retrospectively      March - April, 1973

E1139-17342	E1175-17324	E1129-04314	E1142-05461
E1032-17373	E1074-04244	E1140-10493	E1127-06030
E1159-17451	E1074-04251	E1140-10491	E1127-06042
E1159-17445	E1077-04422	E1140-10505	E1127-06035
E1159-10550	E1077-04420	E1140-10502	E1127-06033
E1133-10104	E1071-04075	E1101-03331	E1127-06024
E1187-03104	E1116-05002	E1154-05150	E1127-04201
E1187-03111	E1115-04541	E1134-05032	E1132-04485
E1153-06553	E1129-06193	E1135-05095	E1149-04424
E1130-04375	E1092-06130	E1135-05092	E1149-04430
E1126-04143	E1111-06190	E1135-05090	E1162-04134
E1126-04140	E1099-06543	E1155-05213	E1164-04245
E1131-04422	E1099-06545	E1153-05094	E1149-08273
E1131-04424	E1099-06552	E1153-05100	E1149-08275
E1131-04431	E1082-05150	E1153-05091	E1131-08280
E1131-04433	E1082-05141	E1154-00210	E1147-08172
E1139-17322	E1146-04260	E1154-00204	E1147-08160
E1139-17315	E1146-04254	E1154-00201	E1133-06441
E1116-00100	E1146-04251	E1166-06261	E1133-06443
E1101-00261	E1146-04245	E1147-06204	E1133-06434
E1101-00255	E1137-00272	E1147-06202	E1133-06423
E1061-06431	E1133-03112	E1147-06195	E1133-06425
E1061-06434	E1133-03105	E1147-06193	E1133-06432
E1061-06425	E1133-04550	E1147-06190	E1132-06382
E1074-06135	E1129-04305	E1142-05452	E1132-06380
E1129-06195	E1129-04311	E1142-05455	E1132-06373

ERTS Images Ordered Retrospectively March - April, 1973

E1176-00425	E1206-05000	E1079-06435	E1135-10221
E1176-00434	E1208-03272	E1122-07205	E1138-10394
E1176-00440	E1206-03173	E1192-08553	E1138-10392
E1177-00490	E1206-03171	E1192-08550	E1190-05155
E1177-00492	E1206-03164	E1157-17323	E1215-04085
E1177-00495	E1192-08544	E1190-17145	E1215-04083
E1206-03162	E1192-08541	E1207-17104	E1192-05272
E1202-08222	E1192-08535	E1176-17380	E1192-05274
E1202-08224	E1209-00261	E1193-17321	E1172-05151
E1202-08231	E1209-00272	E1193-17315	E1172-05153
E1202-08215	E1209-00270	E1193-17330	E1172-05142
E1186-06381	E1209-00263	E1193-17335	E1172-05144
E1186-06365	E1191-05220	E1177-17452	E1175-10441
E1194-09043	E1191-05213	E1176-17371	E1207-05090
E1193-09014	E1191-05211	E1176-17373	E1207-05104
E1193-09012	E1189-05094	E1176-17382	E1207-05102
E1193-09005	E1189-05091	E1176-17385	E1207-05095
E1193-09003	E1189-05085	E1176-17391	E1207-05093
E1193-09000	E1191-00271	E1158-17393	E1180-08001
E1193-08594	E1191-00264	E1157-17330	E1191-00255
E1193-08591	E1191-00262	E1180-08001	E1189-06552
E1193-09021	E1189-03224	E1180-07594	E1189-06550
E1198-08003	E1187-06415	E1180-07592	E1187-06430
E1206-05005	E1189-06552	E1180-07585	E1187-06442
E1206-05002	E1189-06550	E1135-10223	E1187-06435

ERTS Images Ordered Retrospectively March - April, 1973

E1147-08160	E1170-05002	E1196-09183	E1195-17452
E1141-07264	E1184-06250	E1196-09190	E1194-17382
E1141-07271	E1182-01164	E1200-06144	E1178-17504
E1172-06582	E1182-01161	E1200-06141	E1178-17501
E1172-06580	E1186-10005	E1205-00034	E1189-17102
E1171-06530	E1186-10003	E1206-00092	E1192-17265
E1171-06524	E1191-08492	E1206-00095	E1192-17272
E1166-06254	E1183-06200	E1198-08000	E1200-06150
E1166-06252	E1183-06194	E1194-17380	E1197-07544
E1166-06245	E1182-06144	E1194-17373	E1194-09055
E1169-06414	E1183-06203	E1203-04422	E1194-09061
E1157-00384	E1171-05092	E1197-05510	E1191-05204
E1157-00381	E1171-05090	E1197-05504	E1195-09095
E1157-00390	E1171-05083	E1203-06315	E1190-05152
E1155-00262	E1184-06261	E1204-04494	E1190-05150
E1155-00260	E1184-06255	E1204-04492	E1183-06191
E1155-00253	E1184-06252	E1204-04485	E1190-05143
E1156-07094	E1126-05565	E1195-09095	E1196-05454
E1156-07100	E1126-05563	E1196-09181	E1192-05263
E1175-00380	E1126-05560	E1196-09174	E1192-05265
E1175-00373	E1179-01000	E1196-09172	E1208-03272
E1137-05214	E1179-00593	E1196-09165	E1182-06141
E1137-05212	E1179-00591	E1196-09163	E1160-07321
E1137-05205	E1178-07315	E1196-09154	E1209-03340
E1137-05203	E1178-07321	E1195-17450	E1176-00431

ERTS Images Ordered Retrospectively March - April, 1973

E1187-06433	E1174-17270	E1175-17312
E1184-06202	E1174-17263	E1175-17324
E1184-06200	E1211-17325	E1156-17271
E1184-06193	E1211-17332	E1157-17321
E1180-01045	E1210-17271	E1157-17314
E1180-01054	E1210-17273	
E1180-01051	E1193-17330	
E1205-04541	E1193-17324	
E1205-04550	E1212-17374	
E1205-04544	E1211-17332	
E1187-06442	E1211-17323	
E1187-06435	E1211-17320	
E1187-06433	E1208-00211	
E1184-06200	E1208-00205	
E1184-06193	E1208-00202	
E1205-04544	E1208-00200	
E1182-06141	E1182-06135	
E1213-07271	E1220-06255	
E1220-06271	E1220-06264	
E1220-06255	E1220-06262	
E1182-06141	E1208-00211	
E1182-06135	E1208-00214	
E1220-06264	E1153-17103	
E1220-06262	E1160-17503	
E1190-05161	E1172-17144	

E1138-10374

E1218-06151

E1218-06145

E1218-06142

E1218-06140

E1190-17145

E1172-17144

E1208-17151

E1175-10441

E1135-10221

E1138-10394

E1138-10392

E1138-10374

E1218-06151

E1218-06145